UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/540,422	04/04/2006	Pyare L. Seth	Q88273	4203

23373 7590 12/03/2008

SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
SUITE 800
WASHINGTON, DC 20037

EXAMINER	
ROBERTS, LEZAH	

ART UNIT	PAPER NUMBER
1612	

MAIL DATE	DELIVERY MODE
12/03/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/540,422	SETH, PYARE L.	
	Examiner	Art Unit	
	LEZAH W. ROBERTS	1612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 July 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 4-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 4-13* is/are rejected.

7)☒ Claim(s) *1 and 4-13* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This Office Action is in response to the Amendment filed July 28, 2008. All previous rejections have been withdrawn unless stated below.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action. This action is made NON-FINAL.

Claims

Claim Objections

Claims 1 and 4-13 are objected to because of the following informalities: the claim recites the term "pirfenidone" after the "5-methyl-1-phenyl-2-(1H)-pyridone". The term "pirfenidone" is needlessly duplicative. Appropriate correction is required.

Claim Rejections - 35 USC § 103 – Obviousness (Previous Rejections)

1) Claims 3-4 and 9-11 were rejected under 35 U.S.C. 103(a) as being unpatentable over Scheiwe et al. (US 6,492,395) in view of Iyer et al. (US 2004/0033257). The rejection is maintained in regards to claims 4 and 9-11 and further applied to claims 1, 5-8 and 12-13.

Applicant's Arguments

Applicant argues that the Scheiwe does not disclose a liquid comprising 10 to 25% pirfenidone but discloses a hydrophilic ointment comprising pirfenidone. The reference also teaches a formulation preferably containing 3 to 7% pirfenidone in a topical gel dosage form. The formulations have a lower maximum concentration, are unstable at low temperatures, are not solutions, and crystallization occurs at low temperatures. The reference actually teaches away from a composition comprising pirfenidone in an amount if 10% with standard excipients. It further teaches pirfenidone tends to physically destabilize emulsions and other colloidal systems. Iyer does not disclose, teach or suggest a liquid comprising pirfenidone and does not recognize the problems associated with making pirfenidone formulation at higher concentrations. The disclosed formulations comprise Transcutol P as a mixture with other components of the formulation. Further the disclosed compositions are suspension, not solutions and one of ordinary skill in the art would not have been motivated to modify the working examples of Scheiwe et al. based on the teaching of Iyer. There is no reason to combine the two references because the active agents have different structural differences. The Examiner's conclusion is legally improper as it has been held that it is insufficient to establish prima facie obviousness based on the assertion that a modification is within the capabilities of one of ordinary skill in the art without an objective reason to make the modification. Further Iyer does not teach Transcutol P is a suitable solvent for all poorly soluble drugs. The Examiner is using improper hindsight because it is no reason for combining the references.

This argument is not persuasive

Examiner's Response

The claims recite a liquid composition comprising pirfendione or a pharmaceutically acceptable salt and a solvent capable of dissolving pirfenidone in a concentration of 10% to about 25% weight. There is no recitation that the compositions have to be stable at lower temperatures. Further the claims use the term "capable", which means that the solvent is capable of performing the function, it does not mean that the composition has to comprise 10% to 25% pirfenidone. Scheiwe discloses a solution because the compound is dissolved in a solvent. The reference also shows the solvent is capable of dissolving pirfenidone at 10% even though this was not the final composition and therefore it meets the limitations of the instant claims. In regards to the compositions being supersaturated solutions, the solvent dissolves the pirfenidone and meets the limitation of solution. As Applicant has asserted there are issues with stability in regards to pirfenidone, which is disclosed in Scheiwe.

In KSR v. Telefex, 82 USPQ2d 1385, 1397 (U.S. 2007), the Supreme Court has held that when there is market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person has good reason to pursue known options within his or her technical grasp. Under these conditions, "obviousness to try" such options is permissible. In this instance, a market pressure exists in the medical/pharmaceutical industries to stabilize solutions comprising pirfenidone. Accordingly, it would have been obvious to have searched for a stronger solubilizer to ensure the pirfenidone stayed in solution. The secondary reference discloses solvents

that dissolve a water insoluble compound. These solvents include propylene glycol as well as diethylene glycol monoethyl ether (DGME). Considering pirfenidone is slightly soluble, it would have been reasonable to conclude that solvents that dissolve an insoluble substance would dissolve a slightly soluble substance. Iyer also discloses the DGME as a powerful solubilizer and is equivalent to polyethylene glycol (paragraph 0014), which is a plasticizer in the primary reference and disclosed as an equivalent to polypropylene glycol. It is reasonable to conclude that since polypropylene glycol dissolves pirfenidone, then DGME will also dissolve pirfenidone. In regards to the compositions being capsules, loratadine is dissolved before being encapsulated therefore it is in a solution.

Declaration under 37 CFR 1.132

The declaration filed July 28, 2008 by Dr. Pyare Seth asserts that the 10 % pirfenidone composition of the reference is a supersaturated solution. Solutions were made comprising 7% pirfenidone and 10% pirfenidone in 50/50 propylene glycol/water. The solutions were then stored in a refrigerator at 5^{o}C for 24 hours. The 7% solution remained clear, whereas the 10% solution formed crystals. A solution of 10% pirfenidone in diethylene glycol monoethyl ether (DGME, at 75%) was made and stored under the same conditions and did not show any crystallization.

Examiner's response

Although the compositions in DGME were more stable, the claims read on a solution at any temperature and the DGME is at any concentration, which encompasses amounts other than that in the disclosed declaration. There also is no limitation in the claims that the compositions have to be stable at temperatures other than room temperature. Additionally, Applicant uses more DGME in the compositions of the instant claims than propylene glycol in the compositions representing the compositions of the prior art. Applicant has not shown how stability is affected at 65% of propylene glycol as disclosed in the reference or at 75% as in the example of the instant invention. Furthermore the examples of the prior art uses polypropylene glycol, not propylene glycol. Therefore it cannot be determined if the compositions yield unexpected results. Applicant recites “a solvent capable of dissolving said 5-methyl-1-phenyl-2-(1H)-pyridone". The term “capable” indicates that the compositions do not have to have 10 to 25% pirfenidone, only that the solvent is “capable of” dissolving 10 to 25% pirfenidone.

It is suggested that Applicant distinguishes the compositions from those that use DGME as the primary solvent and those that have a miniscule amount of DGME, which is used to dissolve the pirfenidone that is not dissolved in water.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LEZAH W. ROBERTS whose telephone number is (571)272-1071. The examiner can normally be reached on 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Frederick F. Krass can be reached on 571-272-0580. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Lezah W Roberts/
Examiner, Art Unit 1612

/Frederick Krass/

Supervisory Patent Examiner, Art Unit 1612